

REMARKS

This paper responds to the Office Action mailed on October 27, 2005. Claims 21, 33 and 38 are amended such that claims 21-40 are now pending in this application. Support for amended claims 21 and 33 is found in FIGS. 1 and 2 (among other places).

First §103 Rejection of the Claims

Claims 21-26, 33 and 35-37 were rejected under 35 USC § 103(a) as being unpatentable over Thurston et al. (U.S. 5,883,782) in view of Ruegg (U.S. 4,266,267). A *prima facie* case of obviousness has not been established for at least the following reasons: (i) the combination of Thurston and Ruegg does not describe each and every element of the claimed invention; and (ii) there is no motivation or suggestion to combine Thurston and Ruegg.

I. Thurston and Ruegg do not describe every element of claims 21-26, 33 and 35-37

In order to establish a *prima facie* case of obviousness, the references must teach or suggest all the claim elements. See M.P.E.P. § 2142 and *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). The Examiner acknowledges at page 2 of the Office Action that “Thurston lacks specific teaching of a member within the opening in the heat sink.”

Applicant respectfully submits that the cited combination does not teach or suggest “the member including an upper surface that is substantially planer with the upper surface of the heat sink and a lower surface that is substantially planer with the lower surface of the heat sink” as recited in amended claim 21. In addition, Applicant respectfully submits that the cited combination does not teach or suggest “positioning a member within an opening in the heat sink such that a lower surface of the member is substantially planer with the lower surface of the heat sink and an upper surface of the member is substantially planer with an upper surface of the heat sink” as recited in amended claim 33.

Applicant respectfully submits that Thurston and/or Ruegg do not teach or suggest a member as recited in claims 21 and 33. Applicant respectfully directs the Examiner’s attention to FIG. 6 of Ruegg which show that the neither the O-ring 16 or the plug 17 include upper and

lower surfaces that are substantially planer with the respective upper and lower surfaces of heat sink 12.

II. There is no motivation or suggestion to combine Thurston and Ruegg

Applicant respectfully submits that the Examiner failed to establish a legally sufficient motivation to combine the references. To do that the Examiner must show that some objective teaching in the prior art or some knowledge generally available to one of ordinary skill in the art would lead an individual to combine the relevant teaching of the references. *In re Fine*, 837 F.2d 1071, 1074, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988).

The court in *Fine* stated that:

Obviousness is tested by "what the combined teaching of the references would have suggested to those of ordinary skill in the art." *In re Keller*, 642 F.2d 413, 425, 208 USPQ 871, 878 (CCPA 1981)). But it "cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching or suggestion supporting the combination." *ACS Hosp. Sys.*, 732 F.2d at 1577, 221 USPQ at 933. And "teachings of references can be combined *only* if there is some suggestion or incentive to do so."

Id. (emphasis in original).

Applicant respectfully submits that there is no suggestion or motivation to combine Thurston and Ruegg because the cited references teach away from such a combination. A factor cutting against a finding of motivation to combine or modify the prior art is when the prior art teaches away from the claimed combination. A reference may be said to teach away when a person of ordinary skill, upon reading the reference, would be discouraged from following the path set out in the reference, or would be led in a direction divergent from the path the applicant took. *In re Gurley*, 27 F.3d 551, 31 USPQ 2d 1130, 1131 (Fed. Cir. 1994); *United States v. Adams*, 383 U.S. 39, 52, 148 USPQ 479, 484 (1966); *In re Spinnoble*, 405 F.2d 578, 587, 160 USPQ 237, 244 (C.C.P.A. 1969); *In re Caldwell*, 319 F.2d 254, 256, 138 USPQ 243, 245 (C.C.P.A. 1963).

Thurston teaches away from any type of fixed (i.e., non-moving) connection with a pin as described in Ruegg. Applicant respectfully refers the Examiner to Thurston at col. 5, lines 21-60 (especially lines 48-60) which describe that Thurston uses a spring clip to maintain flexibility in

the connection with the pins 212, the heat sink 206 and the motherboard 204. Applicant notes that the screw 15 and nut 19 configuration described in Ruegg does not provide for any relative movement in the connection between the heat sink 12 and the transistor 10. Since Thurston teaches providing for relative movement between the motherboard 204 and the pin 212, and Ruegg teaches a fixed connection with the heat sink 12, Applicant respectfully submits that Thurston and Ruegg teach away from one another.

Reconsideration and allowance of claims 21-26, 33 and 35-37 are respectfully requested.

Second §103 Rejection of the Claims

Claims 27-32 were also rejected under 35 USC § 103(a) as being unpatentable over Nelson et al. (U.S. 6,046,905) in view of Johnson et al. (U.S. 4,321,423). The Examiner acknowledges at page 4 of the Office Action that “Nelson lacks specific teaching of wherein the pin is soldered to the motherboard to couple the heat sink to the electronic device and the motherboard.”

Applicant respectfully submits that there is no suggestion or motivation to combine Nelson and Johnson because the cited references teach away from such a combination. Nelson teaches away from any type of soldered connection between the pins and motherboard as described in Johnson. Applicant respectfully refers the Examiner to Nelson at col. 1, lines 41-49; col. 2, lines 14-19 & 63-65; and col. 3, lines 4-6, which describe that Nelson uses the bent portions 38 of the spring 32 to compensate for manufacturing tolerances that would otherwise increase thermal impedance between the thermal element 24 and the integrated circuit package 12. Applicant notes that soldering the pins 26 to the motherboard as described in Nelson would not allow for relative movement between components such that the cartridge 10 disclosed in Nelson would be unable to compensate for manufacturing tolerances (which is the express purpose of the cartridge 10 design disclosed in Nelson).

Applicant also can not see why one of ordinary skill in the art would solder the pins 26 disclosed in Nelson to the motherboard. First, there is no need to connect the pins 26 to the motherboard as the bent portions 38 of the spring 32 are already connected to the pins 26. Therefore, connecting the pins 26 to the motherboard would be redundant. Second, connecting the pins 26 to the motherboard in Nelson would contradict the need for the pins 26 to move

through the motherboard as the spring 32 deflects to accommodate packages of varying tolerances (see, e.g., Nelson at col. 1, lines 41-49; col. 2, lines 14-19 & 63-65; and col. 3, lines 4-6).

Applicant also can not see where one of ordinary skill in the art would incorporate the spring 32 design disclosed in Nelson into the device disclosed in Johnson because Johnson teaches away from any type of spring (or clip) design. Johnson teaches using a spacer 17 to maintain a particular height between the motherboard and a heat sink such that Johnson is unable to compensate for any varying manufacturing tolerances (see Johnson at col. 3, lines 32-36). In addition, the deflecting springs 32 of Nelson are not required in the device of Johnson because Johnson describes using a soldered connection (which is an inherently fixed connection).

Reconsideration and allowance of claims 27-32 are respectfully requested.

Applicant's Comments on Examiner's Response to Arguments

The Examiner states at pages 7-8 that "Applicant cites Nelson as stating that the clip is designed to accommodate for tolerances and that the clip provides a minimum pull force." Applicant agrees in part with the Examiner's assertion and disagrees in part with the Examiner's assertion.

First, Applicant agrees that Nelson is designed to permit movement between the pins 26 and the mother board so as to account for manufacturing tolerances. Second, the Examiner disagrees as to the assertion relating to pull force. Applicant made no statements relating pull force.

The Examiner further states at page 8 that "the Examiner fails to see how a soldered connection could not accommodate a tolerance in the cartridge or provide a minimum pull force." Applicant respectfully submits that a soldered connection is a fixed connection such that there could be no relative movement between the pins 26 and the motherboard as taught by Nelson. Applicant fails to see the relevance of pull force as it applies to Nelson and again only notes that Nelson is designed to permit movement between the pins 26 and the mother board.

The Examiner further states at page 8 that "the Examiner asserts that a soldered connection would at least accommodate a tolerance and provide a minimum pull force." Applicant is unsure as to whether Nelson a soldered connection would accommodate a tolerance

but respectfully notes that the soldered connection of Johnson would not permit movement between the pins 26 and the motherboard to accommodate for tolerances.

The Examiner further states at page 8 that “Johnson teaches that it is known to use spring clips and/or solder in securing heat sinks to electronic devices. This would suggest to one of ordinary skill in the art to use clips or solder or a combination thereof to connect heat sinks to their respective electronic devices.” Applicant agrees in part with the Examiner’s assertion and disagrees in part with the Examiner’s assertion.

First, Applicant agrees that Johnson teaches using clips or solder to secure a heat sink to an electronic device. Second, the Examiner disagrees as to the assertion relating to combining clips and solders. Applicant respectfully submits that any clip design that is configured to permit movement between a pin and a motherboard would not include a soldered (i.e., fixed) connection.

The Examiner further states at page 8 that:

“Applicant seems to contend that a soldering connection is inferior to the spring clip connection and therefore the combination is defective. Disclosed examples and preferred embodiments do not constitute a teaching away from a broader disclosure or nonpreferred embodiments . . . The Examiner believes that regardless of whether a clip is superior to a soldered connection in accommodating tolerances, the combination incorporating a soldered connection has some utility in the field and the rejection above based on such a combination is proper.”

Applicant respectfully traverses these assertions. Applicant makes no representations as whether a soldered connection is superior or inferior. Applicant respectfully submits that one of ordinary skill in the art would not use a soldered connection with a clip that is configured to permit movement between a pin and a motherboard as taught by Nelson.

Third §103 Rejection of the Claims

Claims 34 was also rejected under 35 USC § 103(a) as being unpatentable over Thurston et al. in view of Ruegg and further in view of Johnson et al. A *prima facie* case of obviousness has not been established for at least the following reasons: (i) the combination of Thurston,

Ruegg et al. and Johnson et al. does not describe each and every element of the claimed invention; and (ii) there is no motivation or suggestion to combine Thurston, Ruegg and Johnson.

I. Thurston, Ruegg and Johnson do not describe every element of claim 34

Applicant respectfully submits that the cited combination does not teach or suggest “positioning a member within an opening in the heat sink such that a lower surface of the member is substantially planer with the lower surface of the heat sink and an upper surface of the member is substantially planer with an upper surface of the heat sink” as recited in amended claim 33. As discussed above, Applicant respectfully directs the Examiner’s attention to FIG. 6 of Ruegg which show that the neither the O-ring 16 or the plug 17 (citing by the Examiner as the member in the claims) include upper and lower surfaces that are substantially planer with the respective upper and lower surface of heat sink 12.

II. There is no motivation or suggestion to combine Thurston, Ruegg and Johnson

Applicant respectfully submits that there is no suggestion or motivation to combine Thurston, Ruegg and Johnson because the cited references teach away from such a combination. Thurston teaches away from any type of fixed connection with a heat sink as described in Johnson. Applicant again respectfully refers the Examiner to Thurston at col. 5, lines 21-60 (especially lines 48-60) which describe that Thurston uses a spring clip to maintain flexibility in the connection with the heat sink 206 and the motherboard 204. Applicant notes that the fixed connections described in Ruegg and Johnson do not permit movement between the pin and the motherboard. Since Thurston teaches permitting relative movement between the pins 212, the motherboard 204 and the heat sink 206, and Ruegg and Johnson teach a fixed connection with the pin, Applicant respectfully submits that Ruegg and Johnson teach away Thurston.

Reconsideration and allowance of claim 34 are respectfully requested.

Fourth §103 Rejection of the Claims

Claims 38 and 39 were also rejected under 35 USC § 103(a) as being unpatentable over Thurston et al. in view of Ruegg and further in view of Cohen (U.S. 6,549,410). A *prima facie* case of obviousness has not been established for at least the following reasons: (i) the

combination of Thurston, Ruegg et al. and Cohen does not describe each and every element of the claimed invention; and (ii) there is no motivation or suggestion to combine Thurston, Ruegg and Cohen.

I. Thurston, Ruegg and Cohen do not describe every element of claims 38, 39

Applicant respectfully submits that the cited combination does not teach or suggest “the member including an upper surface that is substantially planer with the upper surface of the heat sink and a lower surface that is substantially planer with the lower surface of the heat sink” as recited in amended claim 38. As discussed above, Applicant respectfully directs the Examiner’s attention to FIG. 6 of Ruegg which show that the neither the O-ring 16 or the plug 17 include upper and lower surfaces that are substantially planer with the respective upper and lower surface of heat sink 12.

III. There is no motivation or suggestion to combine Thurston, Ruegg and Cohen

Applicant respectfully submits that there is no suggestion or motivation to combine Thurston, Ruegg and Cohen because the cited references teach away from such a combination. Thurston teaches away from any type of fixed connection with a heat sink as described in Ruegg. Applicant again respectfully refers the Examiner to Thurston at col. 5, lines 21-60 (especially lines 48-60) which describe that Thurston uses a spring clip to maintain flexibility in the connection with the heat sink 206 and the motherboard 204. Applicant notes that the fixed connection described in Ruegg does not permit movement between the pin and the heat sink. Since Thurston teaches permitting relative movement between the pin 212, the motherboard 204 and the heat sink 206, and Ruegg teaches a fixed connection between the pin and the heat sink, Applicant respectfully submits that Thurston and Ruegg teach away from one another.

Reconsideration and allowance of claims 38 and 39 are respectfully requested.

Fifth §103 Rejection of the Claims

Claims 40 was also rejected under 35 USC § 103(a) as being unpatentable over Thurston et al. in view of Ruegg in view of Cohen and further in view of Johnson et al. A *prima facie* case of obviousness has not been established for at least the following reasons: (i) the combination of

Thurston, Ruegg et al., Cohen and Johnson et al. does not describe each and every element of the claimed invention; and (ii) there is no motivation or suggestion to combine Thurston, Ruegg, Cohen and Johnson.

I. Thurston, Ruegg, Cohen and Johnson do not describe every element of claim 34

Applicant respectfully submits that the cited combination does not teach or suggest “the member including an upper surface that is substantially planer with the upper surface of the heat sink and a lower surface that is substantially planer with the lower surface of the heat sink” as recited in amended claim 38. As discussed above, Applicant respectfully directs the Examiner’s attention to FIG. 6 of Ruegg which show that the neither the O-ring 16 or the plug 17 (citing by the Examiner as the member in the claims) include upper and lower surfaces that are substantially planer with the respective upper and lower surface of heat sink 12.

II. There is no motivation or suggestion to combine Thurston, Ruegg, Cohen and Johnson

Applicant respectfully submits that there is no suggestion or motivation to combine Thurston, Ruegg, Cohen and Johnson because the cited references teach away from such a combination. Thurston teaches away from any type of fixed connection between a pin and a heat sink as described in Ruegg and Johnson. Applicant again respectfully refers the Examiner to Thurston at col. 5, lines 21-60 (especially lines 48-60) which describe that Thurston uses a spring clip to maintain relative movement between the pin 212, the heat sink 206 and the motherboard 204. Applicant notes that the fixed connections described in Ruegg and Johnson do not permit movement of the pin relative to other components. Since Thurston teaches permitting relative movement between the pin 212, the motherboard 204 and the heat sink 206, and Ruegg and Johnson teach a fixed connection with the pin, Applicant respectfully submits that Ruegg and Johnson teach away Thurston.

Reconsideration and allowance of claim 40 are respectfully requested.

Reservation of Right to File Continuation or Divisional Applications

Applicant respectfully traverses the pending 35 USC § 103 rejections. Applicant reserves the right to file a continuation application relating to any of the original and/or canceled claims at

a later date. Applicant also respectfully reserves the right to traverse any statements in the Office Action relating to the rejections (e.g., under MPEP 2144.04 among other things). Applicant is expressly not admitting to any assertions made in the Office Action.

Reservation of Right to Swear Behind References

Applicant reserves the right to swear behind any references which are cited in a rejection under 35 U.S.C. §§102(a), 102(e), 103/102(a), and 103/102(e). Statements distinguishing the claimed subject matter over the cited references are not to be interpreted as admissions that the references are prior art.

Conclusion

Applicant respectfully submits that the claims are in condition for allowance and notification to that effect is earnestly requested. The Examiner is invited to telephone Applicant's attorney, Andrew Peret at (262) 646-7009, or the below signed attorney to facilitate prosecution of this application.

If necessary, please charge any additional fees or credit overpayment to Deposit Account No. 19-0743.

Respectfully submitted,
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CERTIFICATE UNDER 37 CFR 1.8: The undersigned hereby certifies that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail, in an envelope addressed to: MS Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, on this 23rd day of December 2005.

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